UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
MASUR, PAUL H

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/585,713	CHINEA ET AL.
	Examiner	Art Unit	
	Paul Masur	2416	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 July 2006</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-23</u> is/are pending in the application.

4a) Of the above claim(s) <u>1-9</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>10-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>11 July 2006</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>07/11/2006</u>.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   **Acknowledgment is made of applicant's claim for foreign priority based on**

an application filed in Germany on January 12, 2004. It is noted, however, that

applicant has not filed a certified copy of the 10 2004 001 691.7 application as required

by 35 U.S.C. 119(b).

Drawings

2.   **Figure 1 should be designated by a legend such as --Prior Art-- because**

only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3.   **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102**

that form the basis for the rejections under this section made in this Office

action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 10-14 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Beshai et al. (US PG Pub 2008/0165688).**

As per claim 10, Beshai et al. teaches a method for transmitting a data burst between a sending network node and a receiving network node over a switching device of a data network, comprising:

receiving information by the sending network node regarding a blocking time [Beshai, fig. 26-A, "Send Schedule", The edge determines the blocking time from the schedule that is sent by the core.];

waiting for expiration of the blocking time [Beshai, fig. 26-A, "Delay", paragraph 0184, "an edge node 208 sends a request to a core node 312 for permission to transfer a data burst and waits until the permission is received", The time that the edge waits after receiving the schedule is the blocking time,]; and

transmitting the data burst from the sending network node to the receiving network node [Beshai, fig. 26-A, "Transmit Burst"].

5.   **As per claim 11,** Beshai et al. teaches the method according to claim 10. Beshai et al. also teaches further comprising transmitting a remaining blocking time of an available connection between the sending and receiving nodes to the sending network node [Beshai, fig. 26-A, paragraph 0184, "Each edge node 208 would continually send such requests", More scheduling requests are sent to determine remaining connection time.].

6.   **As per claim 12,** Beshai et al. teaches the method according to claim 11.

Beshai et al. also teaches further comprising transmitting to the sending network node

both:

the point in time of the beginning of an available connection or the blocking time

until the beginning of an available connection [Beshai, fig. 26-A, paragraph 0184, "A

reserved path remains idle until the edge node starts transmitting the burst", The

connection remains idle (blocking time) until the sending node sends the burst.], and

the point in time of the termination of the available connection or the duration of

the available connection or a length of time until the end of the available connection are

transmitted to the sending network node [Beshai, fig. 27, paragraph 0185, "The burst-

width variation, as illustrated by the indicated envelope of burst-width variation with

time, reflects time-varying flow-rate allocations", The length of the burst (which is

dependent on the connection) is dependent on time.].

7.   **As per claim 13,** Beshai et al. teaches the method according to claim 12.

Beshai et al. also teaches wherein the blocking time [Beshai, fig. 26-A, paragraph 0184,

"A reserved path remains idle until the edge node starts transmitting the burst", The

connection remains idle (blocking time) until the sending node sends the burst.] and the

remaining connection time for a connection are transmitted to the sending network node

[Beshai, fig. 27, paragraph 0185, "The burst-width variation, as illustrated by the

indicated envelope of burst-width variation with time, reflects time-varying flow-rate

allocations", The length of the burst (which is dependent on the connection) is

dependent on time.].

8.   **As per claim 14,** Beshai et al. teaches the method according to claim 11.

Beshai et al. teaches wherein the sending network node sends a reservation request via

the switching device to the receiving network node [Beshai, fig. 26-A, "Send Schedule",

The edge determines the blocking time from the schedule that is sent by the core (which

also function as the receiving device).].

9.   **As per claim 20,** Beshai et al. teaches the method according to claim 13.

Beshai et al. also teaches wherein the data bursts are transmitted over an optical data

network [Beshai, paragraph 0009, "A network providing optical burst switching in the

core requires flow-rate regulation at the electronic edge nodes to enable contention-free

switching at subsequent core nodes"].

10.   **As per claim 21,** Beshai et al. teaches a method for transmitting a data burst

between a sending network node and a receiving network node over a switching device

of a data network, comprising:

receiving information by the sending network node regarding a blocking time

[Beshai, fig. 26-A, "Send Schedule", The edge determines the blocking time from the

schedule that is sent by the core.];

waiting for expiration of the blocking time [Beshai, fig. 26-A, "Delay", paragraph

0184, "an edge node 208 sends a request to a core node 312 for permission to transfer

a data burst and waits until the permission is received", The time that the edge waits

after receiving the schedule is the blocking time,];

transmitting the data burst from the sending network node to the receiving

network node [Beshai, fig. 26-A, "Transmit Burst"];

transmitting a remaining blocking time of an available connection between the

sending and receiving nodes to the sending network node [Beshai, fig. 26-A, paragraph

0184, "Each edge node 208 would continually send such requests", More scheduling

requests are sent to determine remaining connection time.]; and

transmitting to the sending network node:

the point in time of the beginning of an available connection or the

blocking time until the beginning of an available connection [Beshai, fig. 26-A,

paragraph 0184, "A reserved path remains idle until the edge node starts

transmitting the burst", The connection remains idle (blocking time) until the

sending node sends the burst.], and

the point in time of the termination of the available connection or the

duration of the available connection or a length of time until the end of the

available connection are transmitted to the sending network node [Beshai, fig.

27, paragraph 0185, "The burst-width variation, as illustrated by the indicated

envelope of burst-width variation with time, reflects time-varying flow-rate

allocations", The length of the burst (which is dependent on the connection) is

dependent on time.].

11.   **As per claim 22,** Beshai et al. teaches the method according to claim 21.

Beshai et al. also teaches wherein the blocking time is the time duration till the next

permissible data burst transmission [Beshai, fig. 26-A, "Delay", paragraph 0184, "an

edge node 208 sends a request to a core node 312 for permission to transfer a data

burst and waits until the permission is received", The time that the edge waits after receiving the schedule is the blocking time,].

12.   **As per claim 23,** Beshai et al. teaches a method for transmitting a data burst between a sending network node and a receiving network node over a switching device of a data network, comprising:

receiving information by the sending network node regarding a blocking time [Beshai, fig. 26-A, "Send Schedule", The edge determines the blocking time from the schedule that is sent by the core.];

waiting for expiration of the blocking time [Beshai, fig. 26-A, "Delay", paragraph 0184, "an edge node 208 sends a request to a core node 312 for permission to transfer a data burst and waits until the permission is received", The time that the edge waits after receiving the schedule is the blocking time,];

transmitting the data burst from the sending network node to the receiving network node [Beshai, fig. 26-A, "Transmit Burst"];

transmitting a remaining blocking time of an available connection between the sending and receiving nodes to the sending network node [Beshai, fig. 26-A, paragraph 0184, "Each edge node 208 would continually send such requests", More scheduling requests are sent to determine remaining connection time.]; and

transmitting to the sending network node the point in time of the beginning of an available connection [Beshai, fig. 26-A, paragraph 0184, "A reserved path remains idle until the edge node starts transmitting the burst", The connection remains idle (blocking time) until the sending node sends the burst.], and the duration of the available

connection [Beshai, fig. 27, paragraph 0185, "The burst-width variation, as illustrated by

the indicated envelope of burst-width variation with time, reflects time-varying flow-rate

allocations", The length of the burst (which is dependent on the connection) is

dependent on time.].

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

14.   Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Beshai et al. (US PG Pub 2008/0165688) in view of Oh et al. (US PG Pub

2003/0099243).

15.   **As per claim 15,** Beshai et al. teaches the method according to claim 14.

Beshai et al. does not teach wherein a desired length of time until a subsequent data

burst is sent in the reservation request.

However, Oh et al. teaches wherein a desired length of time until a subsequent

data burst is sent in the reservation request [Oh, paragraph 0010, "It reserves the

bandwidth on each link just for the data burst duration", In the request, the desired burst

time is stated.].

Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement the teachings of Oh et al. into Beshai et al., since

Beshai et al. suggests sending packet bursts according to a defined protocol, and Oh et

al. suggests the beneficial use of a desired length of time between bursts such as to prevent congestion [Oh, paragraph 0010] in the analogous art of optical burst switching.

16.   **As per claim 16,** Beshai et al. in view of Oh et al. teaches the method according to claim 15. Beshai et al. also teaches wherein the data burst is transmitted via a plurality of switching devices [Beshai, fig. 26-A, An optical network comprises multiple switching devices.].

17.   **As per claim 17,** Beshai et al. in view of Oh et al. teaches the method according to claim 15. Beshai et al. does not teach wherein each switching device determines and transmits the longest remaining blocking time to the next switching device or the receiving network node.

However, Oh et al. teaches wherein each switching device determines and transmits the longest remaining blocking time to the next switching device or the receiving network node [Oh, paragraph 0010, "The control packet contains information necessary for routing the data burst through the optical channel, as well as information on the length of the burst and the offset value", Through the duration and offset, a maximum time is determined pass through the network.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Oh et al. into Beshai et al., since Beshai et al. suggests sending packet bursts according to a defined protocol, and Oh et al. suggests the beneficial use of a desired length of time between bursts such as to prevent congestion [Oh, paragraph 0010] in the analogous art of optical burst switching.

18.   Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beshai et al. (US PG Pub 2008/0165688) in view of Oh et al. (US PG Pub 2003/0099243) and Craddock et al. (US PG Pub 2003/0035433).

19.   **As per claim 18,** Beshai et al. in view of Oh et al. teaches the method according to claim 15. Beshai et al. does not teach wherein during an acknowledgement signal the receiving end node sends the remaining time till an available connection to the sending network node via the switching devices and the switching devices reserve the transmission capacity.

However, Craddock et al. teaches wherein during an acknowledgement signal the receiving end node sends the remaining time till an available connection to the sending network node via the switching devices and the switching devices reserve the transmission capacity [Craddock, paragraph 0083, "End-to-end (EE) contexts maintain end-to-end specific state to keep track of sequence numbers, acknowledgments, and time-out values", End-to-End contexts determine the time remaining and the capacity.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Craddock et al. into Beshai et al., since Beshai et al. suggests sending packet bursts according to a defined protocol, and Craddock et al. suggests the beneficial use of End-to-End contexts such as to track network variables [Craddock, paragraph 0083] in the analogous art of optical networks.

20.   **As per claim 19,** Beshai et al. in view of Oh et al. teaches the method according to claim 18. Beshai et al. does not teach wherein the reserved transmission capacity is based on the remaining time information.

However, Craddock et al. teaches wherein the reserved transmission capacity is based on the remaining time information [Craddock, paragraph 0083, "End-to-end (EE) contexts maintain end-to-end specific state to keep track of sequence numbers, acknowledgments, and time-out values", End-to-End contexts determine the time remaining and the capacity.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Craddock et al. into Beshai et al., since Beshai et al. suggests sending packet bursts according to a defined protocol, and Craddock et al. suggests the beneficial use of End-to-End contexts such as to track network variables [Craddock, paragraph 0083] in the analogous art of optical networks.

Conclusion

21.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference Beshai et al. (US Patent No. 7,307,792) teaches optical burst switching with a reservation burst transmission scheme.

The reference Beshai et al. (US Patent No. 7,535,841) teaches optical burst switching that is handled by a switching node.

22.   **Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Masur whose telephone number is (571) 270-7297.** The examiner can normally be reached on Monday through Friday from 7:00AM to 4:30PM (Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. M./
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416